

### REMARKS

Claims 1-8, 12-22, and 24-42 are currently pending in the subject application and are presently under consideration. Claims 1, 19, 22 and 36 have been amended herein. A listing of all claims is found on pages 2-8 of this Reply. Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

#### **I. Rejection of Claims 1-5, 18-22, 24, 30, 35-38, 40 and 41 Under 35 U.S.C. §102(e)**

Claims 1-5, 18-22, 24, 30, 35-38, 40 and 41 stand rejected under 35 U.S.C. §102(e) as being anticipated by Madhavan (U.S. 6,004,017). Reversal of this rejection is respectfully requested for at least the following reasons. Madhavan does not disclose each and every aspect of the present invention as set forth in the subject claims.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). “*The identical invention must be shown in as complete detail as is contained in the...claim.*” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

The claimed invention relates to systems and methods for controlling and diagnosing the health of a machine, and more particularly, to systems and methods for controlling and diagnosing motorized systems according to vibration, pressure, temperature, speed, and/or current analysis. In particular, amended independent claim 1 recites a method for controlling a motorized system comprising measuring an attribute of the motorized system, the attribute comprises at least one of vibration, speed, temperature, pressure, and current in the motorized system; diagnosing a health of the motorized system based on the measured attribute; providing a diagnostics signal based on the diagnosed health; prognosing a state of the motorized system based at least in part on the at least one sensed attribute and/or the diagnosed state; providing a control signal based at least in part on the diagnosed health and the prognosed state; and providing a feedback operation that adjusts the control signal to extend the lifetime of the motorized

system to a specific time horizon, *the control signal is adjusted based upon at least one of reaching a pre-determined pump cavitation amount or reaching a pre-determined pump blockage amount*. Independent claims 19, 22 and 36 recite similar aspects. Madhavan does not disclose such features of the subject claims.

Madhavan relates to predicting limit cycle oscillations and control methods and systems utilizing such predictions. The cited reference predicts when the chatter phenomenon may emerge during an ongoing machining process, and the reference is directed towards mitigated such an occurrence. More specifically, the reference analyzes system vibration data in order to predict when the chatter phenomenon may occur. Madhavan does not disclose adjusting a control signal based upon an amount of pump cavitation or an amount of pump blockage. Consequently, the reference is silent regarding a *control signal that is adjusted based upon at least one of reaching a pre-determined pump cavitation amount or reaching a pre-determined pump blockage amount*. Therefore, the cited reference is silent with regard to the aspects recited in amended independent claims 1, 19, 22 and 36.

Thus, Madhavan fails to anticipate or make obvious applicants' invention as set forth in independent claims 1, 19, 22, and 36 (and claims 2-5, 18-22, 24, 30, 35-38, and 40-41, which depend respectively there from). Therefore, this rejection should be withdrawn.

## **II. Rejection of Claims 6-8, 12-14, 25-29, and 42 Under 35 U.S.C. §103(a)**

Claims 6-8, 12-14, 25-29, and 42 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Madhavan (U.S. 6,004,017) in view of Hays *et al.* (U.S. 6,260,004). This rejection should be withdrawn for at least the following reasons. As noted above, Madhavan does not teach all aspects of claims 1, 22 and 36 (from which the subject claims depend from); and Hays *et al.* does not compensate for the aforementioned deficiencies of the primary reference. Accordingly, this rejection should be withdrawn.

## **III. Rejection of Claims 15-17, and 31-34 Under 35 U.S.C. §103(a)**

Claims 15-17 and 31-34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Madhavan (U.S. 6,004,017) in view of Edison *et al.* (U.S. 5,586,305).

Withdrawal of this rejection is respectfully requested for at least the following reasons. Neither Madhavan nor Edison *et al.*, alone or in combination, disclose or suggest the present invention as set forth in the subject claims. Claims 15-17 and 31-34 depend from independent claims 1 and 22 respectively. As stated *supra*, Madhavan does not disclose or suggest every limitation set forth in the subject independent claim and Edison *et al.* fails to cure the aforementioned deficiencies of the primary reference. Accordingly, this rejection should be withdrawn.

**IV. Rejection of Claim 39 Under 35 U.S.C. §103(a)**

Claim 39 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Madhavan (U.S. 6,004,017) in view of Grayson *et al.* (U.S. 5,111,531). Withdrawal of this rejection is respectfully requested for at least the following reasons. Claim 39 depends from independent claim 36, which, as discussed hereinabove, is not made obvious by Madhavan. Grayson *et al.* fails to overcome the deficiencies of Madhavan with respect to independent claim 36. Accordingly, this rejection should be withdrawn.

**CONCLUSION**

The subject application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,  
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